

Abstract

5 **METHOD FOR NAVIGATING IN THE INTERIOR OF THE BODY USING
THREE-DIMENSIONALLY VISUALIZED STRUCTURES**

A method is described for navigating in the interior of the body using three-dimensionally visualized structures. In a first step of the method, at least two two-dimensional 10 images (50, 50') of the same anatomical object (12) are provided from different perspectives, and also items of information that make it possible to draw conclusions about the respective spatial position of an imaging system relative to the anatomical object (12). The projections 15 (76, 76', 78, 78') of a geometrical structure (80, 82) to be visualized are then created in every two-dimensional image (50, 50'), wherein a geometrical structure (80, 82) to be visualized is created in each two-dimensional image (50, 50'), wherein the geometrical structure (80, 82) to be 20 visualized is different from the anatomical object (12). A cone surface (40, 40') is then generated in space for each image (50, 50') wherein the spatial positions of the cone vertex (46, 46') and cone directrix are determined from the respective spatial position of the imaging system and the 25 shape of the cone directrix is determined from the shape of the projection (76, 76', 78, 78') of the geometrical structure to be visualized (80, 82) on the image (50, 50'). Finally, a spatial intersection of the individual cone surfaces (40, 40') is formed to determine the geometrical 30 structure (80, 82) and the geometrical structure (80, 82) determined and/or an intersection of a plurality of

geometrical structures (80, 82) determined are/is represented and the representation is used for navigation.

(Figure 9)